

AN AUTOMATIC ROLLER WRINGER FOR MOPS AND THE LIKE
DESCRIPTION

OBJECT OF THE INVENTION

5 The present specification refers to a Patent application regarding an automatic roller wringer for mops and the like which mops can be replaced by floor scrubbing devices, butts of the handle, etc., the purpose of which is to facilitate the significant reduction of the effort made by those persons who
10 perform the job of wringing the mop for cleaning floors, or of any similar element, automatically performing the wringing of the mop or the like located on the lower part of the mop handle.

FIELD OF THE INVENTION

15 This invention is applicable within the industry dedicated to the manufacture of domestic and industrial cleaning apparatuses, especially within the industry dedicated to the manufacture of automatic wringers or similar apparatuses.

BACKGROUND OF THE INVENTION

20 The applicant knows of the existence of several apparatuses, devices or elements applicable as wringers which are provided with mechanical actuation elements, operated by the user or users of these elements, configured from clamps, rollers or coupling elements which, directly operated by the user by means of a crank or the like, achieve removing the water
25 contained by the mops or the like.

The applicant likewise knows of the current existence of a plurality of supports having a similar application, provided with mops or the like whose wringing operation is manually performed by introducing the end of the handle of the floor
30 scrubbing device or the like into frustoconical shaped inverted baskets which, by means of twisting movements, removes the liquid contained in the mop.

The applicant knows of the current existence of some carts incorporating the body of a recipient on their structure, on
35 which recipient an electric-power supplied wringer is assembled, the feed of which originates from a battery or an accumulator, the body of the wringer being placed on the surface of the

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recipient bucket, which in turn is provided with a second
compartment with clean water, falling to the inside of the
compartment adjacent to the clean water container, which may or
may not contain a cleaning product, a second compartment on the
5 inside of which the water from the wringing operation slowly
falls into.

It must be indicated that these wringing elements are
provided with two blades located in opposing points which, when
the drive motor thereof is actuated, generate a transportation
10 movement in a coinciding direction, generating the wringing of
the mop or the like previously placed between the two movable
parts, a movement which automatically stops when the parts
generating the mobilization of both wringing areas has carried
out its cycle, returning to the standstill position, i.e.
15 separating from one another and allowing the removal of the mop
or butt of the handle through the upper part.

It has been shown that these parts which move like blades
or the like, generating an approaching movement, do not
definitively wring the mop or the like, as a result of which the
20 user must actuate them on several occasions, on one hand leading
to a loss of time, as well as a large use of electric power
accumulated in the battery.

In view of this drawback, it would be necessary to provide
an automatic wringer with incorporated internal transversally
25 arranged rollers in replacement of the blades, rollers which,
provided with rotating capacity as well as movement, suitably
achieve removing the water existing in the mop or the like.

However, the applicant does not know of the current
existence of an invention provided with the features indicated
30 above as suitable.

DESCRIPTION OF THE INVENTION

The automatic roller wringer for mops and the like proposed
by the invention is a novelty element itself, providing within
its context all those features defined as solutions to the
35 evident drawbacks in this matter.

More specifically, the automatic roller wringer for mops
and the like object of the invention is constituted of a heavy-

duty bucket provided with wheels which facilitate transporting it, on which bucket the automatic roller wringer for mops and the like is supported, internally incorporating different mechanisms which achieve that it acts automatically, without
5 needing to have an external power source.

On the inside of the casing forming the wringer, one or two motors has been provided which are fed by an electric battery arranged inside the casing, which battery is fed until it is saturated by means of the use of a conventional battery charger
10 which is connected to the electric system by one of its ends, and the other one of the ends existing in the charger is incorporated to a base located in the rear part of the casing constituting the wringer, thereby feeding the battery and performing the relevant charging with this operation.

15 A main switch which starts up the operation or stops the actuation of the wringer has been provided on the outer area of the structure of the wringer, which switch is provided with an automatic thermal protection element.

A projection is provided on the side area of the front face
20 of the wringer, on which projection a switch is incorporated which is operated by the mop handle when it is placed along it in a downward direction, the actuation of this switch generating the start-up of the entire mechanism, achieving that one of the rollers begins rotating and the opposite roller moves while it
25 is rotating until it is adjacent to the fixed rotating roller, which, with the pressure generated between both rollers, leads to the complete wringing of the mop.

DESCRIPTION OF THE DRAWINGS

To complement the description that is being made and for
30 the purpose to aid a better understanding of the features of the invention, two sheets of drawings are attached to the present specification as an integral part thereof which, with an illustrative and non-limiting character, show the following:

Figure 1 shows a perspective view from the front, upper
35 area of the invention regarding an automatic roller wringer for mops and the like.

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Figure 2 shows a rear elevational view of the object shown in figure 1.

Figure 3 shows a block diagram of the elements incorporated on the inside of the object of the invention, shown in figures 1 and 2.

PREFERRED EMBODIMENT OF THE INVENTION

In view of these figures, it can be seen how the automatic roller wringer for mops and the like object of the invention is constituted of a casing (2), there being arranged on the lower part thereof coupling elements for arranging on a support bucket, and the front central area thereof being completely hollow, except for the existence of two transversal rollers (5) and (7), roller (5) being fixed but provided with rotational movement, whereas roller (7) is movable, shifting on two side guides (6) arranged on the inner area (4) of the casing (2), the movable roller (7) being operated and started up by means of the user's direct actuation with the end of the handle (20) of the mop or the like on an external switch (10') existing in a groove or suitable area on the right side of the upper part of the casing (2).

The movement of the rollers (5) and (7) is performed due to the existence of one or two main gears (12) provided with an eccentric guide on the inner part, through which guide the pivots of the movable arm pass which make the roller (7) advance and press against the mop at the same time that the roller (5) is rotating in an upward direction, a rotation carried out for a predetermined time applicable for carrying out the entire run of the length of the mop or the like, pushing the totally wrung mop (20) out through the upper part, the roller (7) returning to its original position once the wringing has concluded.

The arms supporting the roller (7) are provided with the relevant springs, which results in a certain resilience of the roller (7), since it permits the latter to adapt to the different types and thicknesses of mops, butts of handles, floor scrubbing devices, etc.

The start-up is carried out by means of the main external switch (8), but the movement is carried out by letting the mop

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(20) fall into the gap existing in the upper right-hand area, generating the mobilization of the push button or switch (10'), making the motor (15) rotate the time which is necessary until the micro (11) is actuated, and accordingly feeding the circuit during the entire run, the stop being carried out by means of a projection (13) existing on the main gears (12) which actuate the micro (11), it being necessary to indicate that the entire wringing process is carried out in a single rotation of said main gears (12), the circuit being open and prepared for a subsequent wringing or actuation.

The automatic wringer (1) is provided on its rear part with a main switch (8), as well as a charging connection (9) for charging the battery, the circuit being open during the charge time, a circuit which is provided with a polarizing diode (17) as a security means, as well as a thermal element (16) serving as protection for the entire electric circuit.

The battery has been referenced with (14), and the internal push button with (10), which push button acts in collaboration with external push button (10'), making the motor rotate.

An access door (18) constituting the cover of the battery has been provided on the rear part.